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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/517,402

12/07/2004

Christopher J. Criscuolo

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4034

7590

12/01/2006

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EXAMINER

ANDERSEN, MICHAEL T

ART UNIT

PAPER NUMBER

3734

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/517,402	<b>Applicant(s)</b> CRISCUOLO ET AL.	
	<b>Examiner</b> M. Thomas Andersen	<b>Art Unit</b> 3734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 21 and 23-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21, 23-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

Acknowledgement is made of the response filed 9/11/2006, to the non-final Office action dated 6/16/2006.

#### *Specification*

Acknowledgement is made to the amendment of the specification. The objection to the specification is thus withdrawn.

#### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

102(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **21, 23-24, and 27** rejected under 35 U.S.C. **102(b)** as anticipated by Huebner, U.S. Patent No. **6,030,162**.

Claim **21**: Huebner's figure 10 shows a surgical tack comprising a head having a drive thread formed on an outer surface thereof; a barrel portion extending from the head and having a tissue engaging thread formed on an outer surface thereof; and a throughbore extending through the head and barrel portion for receipt of a drive tool. Figure 10 clearly shows that the two threads are discontinuous.

Claim **23**: Numeral 16 in figure 10 can be said to be a transition zone between the drive thread and the tissue engaging thread.

Claim **24**: Huebner discloses, "The trailing section threads [the drive threads on the head] may be of constant diameter *or may taper outwardly toward the trailing end.*"

Huebner, col. 4, lines 35-36, emphasis added. Thus, the leading edge of the drive thread can be said to be tapered.

Claim 27: It can be seen in Huebner's figure 10 that the maximum diameter of the drive thread 26 is greater than the maximum diameter of the tissue engaging thread 28 because the barrel portion tapers.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Huebner**.

Claim 26: Huebner does not appear to expressly disclose a chamfered drive thread on the head portion 26. However, Huebner does disclose a chamfer 80 on the leading section 24 (See Huebner figure 2; Huebner, col. 4, 63-65). Huebner also discloses, "[the] termination zone 80 [or chamfered portion] could be used on any of the screws described herein." Huebner, col. 5, lines 6-7. This implies that the chamfered portion can be used on the trailing head portion 26. It would be obvious to apply a chamfered portion on the head portion 26 so as to allow for smooth rotation through and insertion into shaft 146.

Claims 25 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Huebner**, as applied to claims 21, 23-24, and 26-27 above, in view of **Muhling**,

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U.S. Patent No. **5,169,400**. Huebner discloses a throughbore but not a throughbore that has a D-shaped cross-section. Muhling claims in claim 1 "a bone screw . . . comprising an externally threaded shaft in which a tool insertion channel [or throughbore] open at the top . . . the cross-section of said insertion channel being non-circular and corresponding to the cross-section of a tool used for screwing-in said screw . . ." Muhling, claim 1. Muhling's figures 2-5 disclose a number of different throughbore shapes. The point of Muhling's invention is to better allow torque to be applied by the insertion tool to the screw. A D-shaped throughbore is considered within the scope of Muhling's invention, due to the following language in claim 1, "the cross-section of said insertion channel being non-circular and corresponding to the cross-section of a tool used for screwing-in said screw." Id. It would be obvious to combine Muhling with Huebner because they involve the same field of endeavor and modifying the throughbore to be D-shaped would better allow torque to be applied to the screw, as explained by Muhling.

### ***Response to Arguments***

Applicant's arguments filed 9/11/2006 have been fully considered but they are not persuasive. As explained above, Figure 10 of Huebner clearly discloses a discontinuous thread.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Thomas Andersen whose telephone number is (571) 272-8024. The examiner can normally be reached on M-F 8AM-4:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hayes can be reached on (571) 272-4959. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Thomas Andersen  
November 14, 2006

  
MICHAEL J. HAYES  
SUPERVISORY PATENT EXAMINER